Table 1

Imperial County Air Quality Compared to
U.S. National Ambient Air Quality Standards

Compliance Measure/Year	Standard	1997	1998	1999	2000	2001	2002	2003
Ozone (concentrations in parts per million)								
Max. 1-hour concentration	.12	.160	.236	.171	.169	.167	.156	.144
Days over 1-hour standard		10	5	24	5	10	3	3
Max 8-hour concentration	.08	.120	.104	.110	.113	.112	.104	.097
Days over 8-hour standard		50	18	20	5	18	13	8
Carbon Monoxide (concentrations in parts per million)								
Max. 8-hour concentration	9	17.8	14.4	17.9	15.5	12.3	11.6	8.8
Days over 8-hour standard		10	8	11	6	6	3	0
PM10 (concentrations in micrograms per cubic meter)								
Max. 24-hour concentration	150	532	176	227	268	647	373	840
Monitored days over 24-hr std.		4	2	5	6	3	4	4
Calculated days over std.		12	12	32	38	18	21	25
Annual Average	50	77.7	66.1	77.8	95.2	86.2	81.3	80.0

0019-1 (cont.)

2) The final EIS should identify the Clean Air Act requirements for large new facilities locating in nonattainment areas, particularly requirements that such facilities must control emissions to achieve the "lowest achievable emission rate" (LAER) and provide emission offsets for remaining emissions.

0019-2

In drafting the Clean Air Act, Congress carefully considered whether and how to allow new polluting facilities in areas that already have unhealthy air pollution levels. Congress chose not to take a "not one more molecule" approach. Instead, Congress established the "new source review" (NSR) program to balance the need for clean air with the need for economic development.

NSR requires large new facilities to utilize controls that will enable them to achieve the LAER and to offset remaining emissions by achieving enough emission reductions elsewhere in the same facility or region, at a ratio of at least 1.1:1. The greater than 1:1 offset ratio helps ensure that the net impact of the project will be to improve, rather than degrade, air quality in the nonattainment area. The specific LAER and offset cutoffs depend on the severity of the pollution problem in the area where the facility is being located, as indicated by its area classification.

Table 2 shows LAER and offset thresholds for new major sources locating in ozone, CO, and PM10 federal nonattainment areas. A source with a potential to emit more than the indicated thresholds would have to reduce its emissions to levels below the threshold through enforceable permit conditions, or apply controls representing LAER. If the emissions remaining after the application of LAER exceed the applicable

Enclosure-2

threshold, the source would have to obtain offsets, at the specified offset ratio, for all remaining emissions. For federal NSR purposes, all emitting units at the same facility, located on contiguous property and/or under the same ownership, are generally treated as a single source.

Table 2
Federal New Source Review Requirements

Federal Non-Attainment Area Classification	LAER/Offset Threshold (tpy)	Offset Ratio
Ozone	**ROG or NOx**	
Marginal/Transitional	100	1.1:1
Moderate	100	1.15:1
Serious	50	1.2:1
Severe	25	1.2:1 to 1.3:1
Extreme	10	1.2:1 to 1.5:1
Carbon Monoxide	**CO**	
Moderate	100	>1:1
Serious	50	>1:1
PM_{10}	**PM_{10} or PM_{10} Precursors**	
Moderate	100	>1:1
Serious	70	>1:1

0019-2 (cont.)

3) The final EIS should indicate that the level of control and mitigation required for new facilities locating in nonattainment areas is determined by the proposed facility's projected emissions. The use of projected air quality impacts to determine "significance" is a misapplication of federal law.

0019-3

Emissions, not calculated impacts, determine whether a new source locating in a *nonattainment area* is "significant" and subject to permitting restrictions under the Clean Air Act. At 40 CFR 51.165(a)(1)(x)) U.S. EPA indicates that:

> Significant means… a rate of emissions that would equal or exceed any of the following rates:
>
> POLLUTANT EMISSION RATE
>
> Carbon monoxide: 100 tons per year (tpy)
> Nitrogen oxides: 40 tpy
> Sulfur dioxide: 40 tpy
> Ozone: 40 tpy of volatile organic compounds
> Lead: 0.6 tpy

Enclosure-3

The significance levels cited in the DEIS are those that would "apply to any source or modification that would locate in any area designated as *attainment or unclassifiable* for any national ambient air quality standard…." [emphasis added]. Since Imperial County is designated as a federal nonattainment area for ozone and PM10, the DEIS' references to the significance level table for sources locating in attainment areas is not appropriate.

Mexicali has never been designated as a nonattainment area pursuant to the Clean Air Act because U.S. EPA's area designation authority does not extend beyond U.S. borders. However, the Court's rulings indicate that DOE can impose conditions on the transmission line permits to reduce the environmental impacts of the power plants that will be using the transmission lines. The discussion following comment number 4, below, clearly shows that air pollution concentrations in Mexicali and the downwind areas impacted by Mexicali would warrant "nonattainment" designations for ozone, PM10, and carbon monoxide. The requirements set forth in 40 CFR 51.165(a)(1)(x)) should therefore be used to determine whether the facilities are "significant" and to determine the appropriate mitigation. The use of Prevention of Significant Deterioration (PSD) significance levels, which apply to facilities affecting areas that attain air quality standards, is inappropriate.

0019-3 (cont.)

4) The final EIS should recognize that emissions generated in the Mexicali area contribute to poor air quality in Imperial County, and that monitored air quality levels in Mexicali violate both U.S. and Mexican air quality standards.

In its 1993 report, Assessment and Mitigation of the Impacts of Transported Pollutants on Ozone Concentrations in California, ARB determined that emissions generated in Mexicali caused or contributed significantly to every high ozone day recorded in Imperial County from 1989 through 1991. We have enclosed a copy of the staff's report, which was approved by the Board following a public hearing.

ARB staff reviewed all 16 ozone exceedence days recorded in Imperial County between 1989 and 1991. Our technical experts determined that emissions from Mexico had either an overwhelming or significant impact on each of these days — an overwhelming impact when emissions from Mexico caused violations in Imperial County, and significant when emissions generated in Mexico and Imperial County together resulted in unhealthy ozone levels. ARB is required to conduct such an analysis periodically to assess whether emissions generated in one area cause or contribute to violations of the State's ozone standard in downwind areas. Since the report's findings pertain to California's State ozone standard—which, at 0.09 parts per million (ppm), one-hour average, is more stringent than the corresponding federal standard of 0.12 ppm—this analysis would also hold for the federal standard.

0019-4

ARB's determination of ozone transport couples is reflected in the California Code of Regulations, Title 17, section 70500. (Imperial County was considered to be part of the Southeast Desert Air Basin when this regulation was initially adopted. Air basin

boundaries have since been revised, and Imperial County is now considered to be part of the Salton Sea Air Basin.)

Pollution levels within Mexicali also indicate that this should be treated as a nonattainment area for source siting purposes. Since 1997, ARB has operated a network of air quality monitors in Mexicali under an agreement with ARB, U.S. EPA, and the Mexican government. The data recorded by these monitors indicate that Mexicali's air quality is clearly "nonattainment" for ozone, CO, and PM10, as compared to U.S. EPA's ambient air quality standards. The monitoring data, which is summarized in Table 3, indicates that:

- U.S. EPA's 1-hour ozone standard was exceeded an average of 12 days per year in Mexicali.
- U.S. EPA's 8-hour CO standard was exceeded an average of 60 days per year in Mexicali.
- Mexicali exceeded U.S. EPA's 24-hour average PM10 standard an estimated 180 days per year from 1998 through 2002. In three years during this period, the annual average concentration was more than three times the national standard. (Because PM10 measurements are taken only every six days, the expected number of annual exceedences is calculated from the observations, using U.S. EPA guidelines.)

0019-4 (cont.)

Table 3

Mexicali Air Quality Compared to U.S. National Ambient Air Quality Standards

Compliance Measure/Year	Standard*	1997	1998	1999	2000	2001	2002	2003
Ozone (concentrations in parts per million)								
Max 1-hour concentration	.12	.211	.194	.176	.153	*	*	.171
Days over 1-hour standard		15	14	18	7	*	*	5
Max 8-hour concentration	.08	.116	.118	.117	.119	*	*	.105
Days over 8-hour standard		22	21	22	9	*	*	7
Carbon Monoxide (concentrations in parts per million)								
Max 8-hour concentration	9	29.9	37.0	25.9	26.9	*	*	18.1
Days over 8-hour standard		59	82	85	60	*	*	13
PM10 (concentrations in micrograms per cubic meter)								
Max 24-hour concentration	150	378	476	508	595	599	667	521
Monitored days over 24-hr std.		27	28	37	53	44	38	37
Calculated days over std.		**	132	185	309	258	**	**
Annual Average	50	55.5	147.9	194	264.9	217.4	57.8	211.5

* Data analysis not complete.
** Insufficient data available for calculation.

Pollution levels in Mexicali also exceeded the Mexican national ambient air quality standards, which, as Table 4 shows, are similar to U.S. standards.

Table 4

Comparison of National Ambient Air Quality Standards
United States and Mexico

Pollutant	Ambient Air Quality Standard		
	Averaging time	United States	Mexico
Ozone	1 Hour	0.12 ppm	0.11 ppm
	8 Hours	0.08 ppm	----
Carbon Monoxide	8 Hours	9.0 ppm	11.0 ppm
PM10	24 Hours	150 $\mu g/m^3$	150 $\mu g/m^3$
	Annual	50 $\mu g/m^3$	----

0019-4 (cont.)

5) The final EIS should support Alternative 3, conditioning the permits to require the application of alternative technologies, and Alternative 4, requiring the use of mitigation measures to minimize environmental impacts in the U.S.

0019-5

If they had been located 3 miles north, in Imperial County, the Sempra and Intergen power plants would have been subject to Imperial County Rule 207, New and Modified Source Review (most recently revised in 1999). Rule 207 applies to all proposed new sources, or modifications to existing sources, that have the potential to emit 25 pounds per day (5 tons per year [tpy]) or more of any nonattainment pollutant or its precursors. The rule requires the use of Best Available Control Technology (comparable to federal LAER) if emissions of any nonattainment pollutant or its precursors, except for CO, exceed the 5 tpy threshold. Offsets are required if potential emissions exceed 150 tpy. Offsetting emissions would have to be obtained at a ratio of at least 1.2:1. CO control requirements would also apply because Imperial County is "nonattainment" for California's State ambient air quality standard for CO. BACT is required for CO emissions in excess of 100 tpy, and offsets are required at 150 tpy if the CO emissions will cause or contribute to a violation of the CO air quality standard.

Table 5 compares the emissions from the power plants, as reported in Appendix G of the DEIS, to Imperial County's New Source Review requirements.

Table 5

Mexicali Power Plant Emissions Compared to
Imperial County New Source Review Cutoffs

Pollutant	Rule 207 Threshold*	Intergen			Sempra
		EBC (1)	EAX (2)	Total	TDM (3)
NO2 emissions		136 tpy	995 tpy	3000 tpy	187 tpy
NOx LAER	5 tpy				
NOx Offsets	25 tpy				
CO Emissions		727 tpy	2181 tpy	2908 tpy	181tpy
CO LAER	100 tpy				
CO Offsets**	25 tpy				
PM10 Emissions ***		238 tpy	499 tpy	737 tpy	256 tpy
PM10 LAER	5 tpy				
PM10 Offsets	25 tpy				
ROG Emissions****		350 tpy	542 tpy		384 tpy
ROG LAER	5 tpy				
ROG Offsets	25 tpy				

* Rule 207 limits are expressed in pounds per day. For this table, Rule 207 values have been converted to annual emission rates (tons per year) assuming 24 hour per day, 365 day per year operation.

** CO offsets are not required if the CO standards are not violated in the affected area, and the CO emission increases will not cause or contribute to a violation of ambient air quality standards.

*** Includes generation and cooling emissions.

**** Calculated.

(1) Energiá de Baja California, 2 turbines.
(2) Energiá AztecaX, S. de RL de C.V., four turbines.
(3) Termoeléctrica de Mexicali, three turbines.

0019-5 (cont.)

In September, 2001 ARB staff reviewed emission requirements applicable to new power plants that were being sited in the border region. The results, shown in Table 6, indicate that LAER at that time was a NOx emission limit of 2.5 ppm, and a CO limit of 5 ppm. The emission summary provided in Appendix G of the DEIS indicates that the Sempra facility meets these emission limits but the Intergen units do not. Since air quality in Mexicali far exceeds the allowable levels established by ambient air quality standards and emissions generated in Mexicali impact air quality in the Imperial County nonattainment area, the Intergen facility should also be required to comply with these LAER emission levels. (A new power plant siting in California today would be required to achieve a 2.0 ppm NOx emission rate.)

Table 6

Power Plants Emission Limits in the Border Region

State/Area	NO_x Limit (ppm)	CO Limit (ppm)
Arizona	2.5	6
California	2.5	6
New Mexico	3.5	9
Texas	5	5
Mexico: Critical Zone*	42	No Limit
Rest of Border Area	143	No Limit

* Tijuana, Ciudad Juarez

Source: Environmental Impacts of Increased Power Production in the U.S.-Mexico Border, ARB issue paper, September, 2001

0019-5 (cont.)

6) The final EIS should indicate that the failure to reduce emissions from the power generation facilities to the greatest extent possible, and to offset the remaining emissions consistent with the Clean Air Act, will inhibit economic growth in Imperial County.

The DEIS indicates that the power plants and transmission lines would have no lasting or significant socioeconomic impact. This ignores the impact that air quality degradation associated with the power plants will have on future economic development in Imperial County.

0019-6

Like all other nonattainment areas, Imperial County is required to develop plans to attain federal PM10 and ozone standards. Any control measure identified in an attainment demonstration plan reduces the pool of emissions that a new source that wants to locate in Imperial County can use to offset its emissions. Increased emissions from facilities in Mexico could force Imperial County to adopt more stringent control rules and make it more difficult for new industrial facilities to locate in the County.

7) The final EIS should indicate how DOE will ensure compliance with emission levels that form the basis for its decision.

DOE should include power plant emissions monitoring, reporting, and facility access requirements in its permits for the use of the transmission lines. This point should be self-evident given Intergen's admission that it had provided the Court with false information about the emission controls used at its facilities. U.S. EPA's new source permitting requirements and its Title V requirements for large air pollution sources provide an appropriate model for the necessary monitoring, record-keeping, and access provisions to ensure enforceability.

0019-7

8) The final EIS should more accurately portray the potential degradation of air quality in the Salton Sea Air Basin due to the Mexicali power plants' use of wet cooling.

The DEIS acknowledges that the wet cooling technology will decrease the annual flow of New River water to the Salton Sea, accelerating the shrinking of the Salton Sea and creating the potential for increased PM10 emissions as the lakebed is exposed. However, the analysis provided in the DEIS does not support its conclusion that the potential new PM10 will be minimal. The final EIS should indicate a potential for an increase in short-term PM10 violations under high wind conditions.

The DEIS provides a projection of annual average fugitive dust emissions for the Salton Sea, an inappropriate statistic for PM10 problems associated with dry lakebeds. Like many fugitive dust sources, dry lakebeds are a PM10 problem primarily under high wind conditions. The PM10 emissions resulting from high wind episodes can cause exceedences of the 24-hour standard without endangering attainment of the annual average standard. This can be illustrated by looking at recent air quality data from Inyo County, home to Owens Lake. Table 7 compares maximum 24-hour concentrations to the annual average concentrations recorded in Inyo County in recent years. Although Owens Lake is the State's largest single source of particulate matter, Inyo County has violated the annual average national PM10 standard for only two years from 1997 through 2002. The County violated of the 24-hour standard every year in that same period, averaging a projected 14 violations per year.

0019-8

Table 7

Inyo County PM_{10} Data

	National Standard	1997	1998	1999	2000	2001	2002	Ave.
Max. 24-Hr. Concentration µg/m3	150	402	1116	514	715	3189	219	1026
Annual Average µg/m3	50	14.6	53.8	15.3	39.0	69.6	31.2	37.3
Measured Days Over 24-Hr. Standard		6	7	2	2	13	2	5
Calculated Days Over 24-Hr. Standard		17	22	2*	13	18	13	14

* Measured exceedences

The EIS analysis should also address the role that wind speed plays in ambient PM10 levels. The Salton Sea Science Office convened a panel of experts in 2002 to examine potential fugitive dust problems at the Salton Sea. (Dale Gillette, whose research is cited in the DEIS, was among the panel members.) Citing the World Meteorological Organization, the report indicates that wind speeds as low as 15 miles per hour (mph) can initiate wind erosion, and that serious dust storms are associated with wind speeds,

10 meters above the ground, starting at 20-22 mph. The panel reviewed 1997 and 1998 meteorological data collected by the California Irrigation Management Information System (CIMIS) on the west shore of the Salton Sea. The data, summarized in Table 8, indicate that wind speeds exceeded the erosion threshold an average of 402 hours each year. Winds reached speeds exceeding the dust storm threshold from 56 to 95 hours per year in these two years. [1]

Table 8

Wind Speed Occurrences at the Salton City CIMIS Monitoring Site

Wind Speed Category	1997 Data*	1998 Data*
≥ 15 mph	397 hours	407 hours
≥ 18 mph	269 hours	229 hours
≥ 21 mph	95 hours	56 hours
≥ 24 mph	35 hours	23 hours
≥ 27 mph	20 hours	8 hours
≥ 30 mph	11 hours	1 hour

* CIMIS data extrapolated to 10 meters.

0019-8 (cont.)

Finally, the DEIS indicates that the narrow width of the exposed strip, estimated at "7 foot 18 inches wide," would limit the potential for dust storms. Dust storm observations at Owens Lake do indicate a relationship between the size of the exposed area and the potential for PM10 emissions. However, we disagree with the DEIS analysis in two aspects. First, the reduction in lake level is not likely to produce a uniform strip of exposed land. Lake level modeling illustrated in the "Final Panel Report"[2] indicates that initially, lake level reductions will be most evident around the southern portion of the lake. Second, the extent of the exposed area subject to wind scouring and erosion is also influenced by the wind direction. Even with a uniform "narrow strip," the width would be a limitation only where the wind direction is perpendicular to the exposed strip. Should the wind follow the length of the exposed area, the width would not have the same limiting effect.

We agree that it is difficult to project the PM10 impact of reducing flow to the New River, and hence to the Salton Sea. However, the analysis contained in the DEIS clearly understates the potential for increased PM10 emissions. There is a significant likelihood that the projected decreases in the lake level, resulting from the use of wet cooling in the Mexicali power plants, would increase the number or extent of violations of the 24-hour PM10 air quality standard.

[1] Final Panel Report: The Potential for Fugitive Dust Problems at the Salton Sea if Water Levels are Lowered Significantly from Current Conditions; Summary of a Salton Sea Science Office Workshop, La Quinta, California, April 3-4, 2002, September 19, 2002, pages 16, 17

[2] Ibid., p. 32.

9) The discussion of potential ozone impacts is misleading and should not be included in the final EIS.

The DEIS states that additional NOx emissions will not significantly increase ozone in the border region, and implies that additional NOx emissions may in fact result in lower ozone concentrations. This conclusion is largely based on a comparison of observed ozone and NOx concentrations at four monitoring sites in Calexico and El Centro (DEIS figures 4.3.1 to 4.3.4). The common theme in these figures is a negative correlation between ozone concentrations and NOx concentrations. This simple analysis is not sufficiently robust to be included in the final EIS.

Ozone is formed through a complex chemical process influenced by many factors. Time is one of those factors: different chemicals are formed over time as combustion products such as NO2 react with other gases. Because the air mass is constantly moving, the peak NOx concentrations and peak ozone concentrations associated with any given emission source are most likely to show up at different locations, with the peak ozone levels occurring downwind of the peak NOx levels. It is worth noting that the predominant winds recorded during the summer, when ozone formation is most likely, would tend to blow emissions generated near Mexicali towards the populated areas in Imperial County (see DEIS figure 3.3-11).

0019-9

Of course a simple two-dimensional analysis also fails to account for factors such as other pollutants that contribute to ozone formation, the geographical distribution of other emission sources, changes in emission rates and ambient concentrations throughout the day, and meteorological conditions that are conducive to the formation of ozone.

The DEIS analysis of the impact of additional NOx emissions on ozone concentrations is inconclusive at best. As we indicated in comment number 4, the ARB's 1993 analysis of the impact of transported air pollutants indicates that emissions from Mexicali caused, or significantly contributed to, every high ozone day recorded in Imperial County over a two-year period.